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Case Study

BRANCH RETINAL VEIN OCCLUSION AND ITS AYURVEDIC MANAGEMENT- A CASE STUDY

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ABSTRACT

Branch retinal venous occlusion is second most common vascular disorder found in retina. It usually forms due to venous obstruction at arteriovenous crossing. The arteriolar thickening plays a major role in obstructing the venous return from retina. This can lead to retinal non perfusion area and even macular edema or vitreous haemorrhage, seriously hampering vision. In this paper, I have presented a case of a young man suffering from BRVO and was treated with the help of Ayurvedic medicines. The man presented with field defects and blurred vision. After proper evaluation of *Hetus* (etiological factors in patient) and *Laxanas* (clinical features), *Samprapti* (disease process) was plotted and the diagnosis of *Netragata Kafajavatarakta* was made. The treatment prescribed was *Kafaghna* and *Vatarktaghna* medicines such as *Kaishorguggulu, Vasaguluchyadi Kashaya, Punarnava Kashaya, Bidalaka* and lifestyle changes. The fundus photographs were taken before and after treatment. Though the patient was irregular in taking medicines, he was completely recovered.

KEYWORDS: BRVO, *Vatarakta*, Ayurveda, *Kaishorguggulu, Vasaguluchyadi Kashaya.*

INTRODUCTION

Retinal vein occlusions (RVO) are a heterogeneous group of disorders that have in common impaired venous return from the retinal circulation. RVO is classified into branch retinal vein occlusion (BRVO), Hemiretinal vein occlusion (HRVO), and central retinal vein occlusion (CRVO) depending on the site of the obstruction.

Site of obstruction	Nomenclature
Within or posterior to optic head	CRVO
At the major bifurcation	HRVO
Within a tributary	BRVO

Often, HRVO is considered as a separate condition that behaves intermediately between BRVO and CRVO.[1] Branch retinal vein occlusion (BRVO) is the second-most frequent retinal vascular disorder.[2] In the majority of cases, BRVO occurs when a first- or second-order retinal vein focally occludes at an arteriovenous (AV) crossing[3] and results in the development of macular edema (ME) and a retinal nonperfusion area (NPA) under upregulation of vascular endothelial growth factor (VEGF) NPA extending to the macular area can directly deteriorate the central vision,[4] while a large peripheral NPA can cause vitreous hemorrhage due to retinal or disc neovascularization in the chronic phase.

Typical atherosclerosis risk factors like systemic arterial hypertension, arteriosclerosis, and diabetes mellitus are commonly associated with all types of RVO,[5] but vein occlusions can also be secondary to other processes such as inflammation, vasospasm, or compression.[6] Although many associations have been reported including thrombophilia. BRVO are most often due to venous compression by a thickened arteriole at an arteriovenous crossing site; but, local anatomic variations can play an important role.

Clinical Features

Patients with BRVO present with visual field abnormalities but are uncommonly asymptomatic. But, if the area affected by the venous obstruction does not involve the macula or if the severity is mild, the symptoms exhibited may be very mild. The increased intravenous pressure results in various events such as tortuosity of veins, haemorrhages, cotton wool spots, and papillitis. Congestion of normal capillary exchange can result in macular oedema, thereby causing metamorphopsia and threatening loss of visual acuity. Severe congestion can uncommonly result in vitreous haemorrhage. Abnormal new blood vessel growth can invade into the iris [*rubeosis iridis*], angle of anterior chamber (NVA), optic disc (NVD), and retina [neo-vascularization elsewhere (NVE)]. All of these events potentiate vitreous or intraretinal or sub-macular

haemorrhages. If the angle is involved, contraction of the neovascularization can compromise aqueous humour outflow, resulting in Neovascular Glaucoma. With time, which can be from months to years, retinal and choroidal vessels from bypasses due to anastomoses reducing the above said pathological events?

Case History

Name	XYZ
Age	41 years
Sex	Male
Occupation	Software engineer- sedentary job. A lot of time spent in front of personal computer and since most of the clients were Europians or Americans, the timings of business were odd.
Weight	75 kgs. Medium built
Address	Bangalore (*Saadharanadesha*)
Birth place	Born and brought up at Pune (*Saadharanadesha*)

Chief complaints

Blurred vision- 2 weeks.

Difficulty in seeing at the lower portion of visual field – 2 weeks.

Fear of losing vision- 2 weeks

Headaches – 6 weeks.

Present history: A 41 years old male patient, working in software industry with a sedentary job, currently dwelling at Bangalore came with branch retinal vision occlusion with macular edema of left eye with complaints of decreased and blurred vision especially at the lower part of visual field. He had developed these symptoms before two weeks and visited an ophthalmic surgeon in the city. The diagnosis of BRVO was made and inj. Accentrix was advised. Patient was reluctant to take intra ocular injection and hence opted for Ayurveda treatment.

History of previous illness: Typhoid at the age of 22 years.

Family history: Father- diabetic chronic kidney disease.

Mother- hypertension

Sister- hypothyroidism

Personal history- Non-smoker, Non-alcoholic.

On examination

Aturapareeksha

Prakrititaha	*Pitta-vata*
Vikrititah	*Kafa- vata, Madhyabalavyadhi*
Saratah	*Raktasaara, Satwasara*
Samhanantah	*Susamhata*
Pramaanatah	*Hraswa, Madhyama*
Saatmyatah	*Pravara*
Satwatah	*Madhyasatwa*
Aaharashaktitah	*Uttama*
Vyayamashaktitaha	*Uttama*
Vayatah	Madhyam

Vikrutipareeksha

Hetu	Sedentary lifestyle*, Jagarana,* rice, chapati, bread, pickles, chillies*, Methi,* paneer, milk, curds, seasonal fruits and frequent tea. *(Guru, Abhishyandhi, Achakshushyaaahara* and *Vihara)*
Doshha	*Guru, Abhishyandi, Gunayuktakafaprakopa.* *Kafajbanyamarga varodha janita vaataprkopa.*
Dushya	*Rasa (Guru abhisyandiahara)* *Rakta (Vidaahiahara, Jagarana)* *Mamsa (Abhisyandi, Diwaswapa)* *Meda (Avyayama)* *Majja (Prapeedana* of veins due to thickened arteries, *Viruddhaseva)* *Pranavaha (Roukshya* due to *Jaagarana)* *Anna vaha (Akaalabhojana)*
Prakriti	*Saadhya*
Deshha	*Saadhaarana*
Kaala	*Sheeta*
Bala.	*Uttama*
Agni	*Mandagnidoshha*
Sweda	*Madhaymavyaayaamaat*
Pureeshha	*Niraama, Mrudu*
Mutra	Normal
Jivha	*Saama* on the posterior side

General Examination

General condition	Good
Pulse	78 per minute
Blood pressure	138/84 mm Hg.
Cardio vascular system	S1S2 – normal. No added sounds
Respiratory system-	Within normal limits
Nervous system	Within normal limits

Netra pareekshana

Head posture	Normal bilaterally (bil.)
Eye brows	Normal, symmetrical (bil.)
Pakshma mandala (eye lashes)	Normal (bil.)
Vartmamandala (eye lids)	Normal, no discoloration, edema, drooping, adhesions (bil.)
Shuklamandala (conjunctiva, sclera)	No discoloration, no adhesions, no congestion (bil.)
Krishnamandala (iris and cornea)	Transparent, sensitive regular cornea. Non muddy iris. (bil.)
Drishtimandala (pupil)	Central, circular, eccentric, normally reaction to light. (bil.)
Best corrected visual acuity	6/6 in right eye, 6/9 in left eye
Visual field	Reduced visual sensation in lower field of left eye.
Fundoscopic examination	Left eye showed blocked branch retinal vein in the left eye supero-temporally and macular edema. Right eye was within normal limits.
Fundus photo (Fig.1)	BRVO with macular edema (Left eye). Right eye was within normal limits

Investigations

His blood work showed increased homocysteine, increased SGOT, increased SGPT and reduced B12. His *Aahara*

Samprapti- From the above history it was clear patient was having *Guru, Abhishyandhi, Achakshushya Aahara* and V*ihara*, as a result there was *Kapha Prakopa*; *Rasa, Rakta* and *Majja Dushti*. Diagnosis of *Kaphaj Dhamani Pratichaya*[7] resulting into S*anga*[8] and *Vimargagamana*[8] in adjacent *Siras* and leading to *Netragata Kaphaja Vaatarakta*[9,10] was made.

Treatment

a) *Aahara-* He was advised to avoid *Abhishandhi* and *Guru Aahara* and increase *Laghu Aahara* like *Peya, Mudga Yusha, Stali Pishta, Tikta Rasa Pradhan Ahara.*

b) *Vihara-* Patient was advised to take intermittent ocular rest (2mins rest after 20mins work), correction and modification in his sleeping habits and moderate walking.

c) Medications

Tab. *Kaishor Guggulu*	500 mg.	TDS	After food.
Vasaguluchyadi Kashaya	15 ml	TDS	After food.
Bidalaka of *Rasna, Punarnava, Trifala, darvi*	5 gms.	BID	For 30 minutes.
Punarnavakashhaaya	15 ml	BID	After food.

The treatment was given for three months. Patient came for follow up after 6months.

After treatment the visual examinations show following changes

Best corrected visual acuity	6/6 in right eye, 6/6 in left eye
Visual field	Normal visual field in lower field of left eye.
Fundoscopic examination	Left eye showed no BRVO and minimal macular edema. Right eye was within normal limits.
Fundus photo (Fig.2.)	Minimal macular edema (Left eye). Right eye was within normal limits

The patient's complaints were relieved completely with 6/6 vision bilaterally without field defect. Fundus photo showed normal fundus with minimal macular edema.

DISCUSSION

Since the patient was having a sedentary lifestyle with irregular food habits and etiological factors specially affecting vision, the patient developed accumulation of *Kafa Dosha* in *Siras* and thus causing obstruction to the flow and the diagnosis was *Netragata Kafaja Vaatarakta*.

Kaishor Guggulu is a medicine having properties like *Kafaghna, Vataghna* and *Raktaprasaadana*. Hence it is used in diseases where *Kaphapradhanasanga* is present. S*harangdhar* has mentioned that when used with *Vasadi Kashaya*, *Kaishore guggulu* is useful in *netrarogas*.[11] Basically a tablet for *Vatarakta Chikitsa, Kaishore Gugulu* is also known to reduce dyslipidemia. The main ingredients are *Tinospora cordifolia, Emblica officinalis, Terminalia bellirica, Terminalia chebula, Commiphora mukul, Zingiber Officinale, Piper Nigrum, Piper longum, Opercuina turpethus, Embelia ribes, Baliospermum montanum.*

The following table shows the qualities of its contents

Content	*Rasa*	*Veerya*	*Vipaka*	*Guna*	*Doshghnata*
Tinospora cordifilia	*Tikta, Kashaya*	*Ushna*	*Madhura*	*Rasayani*	*Tridoshaghna*
Trifala	*Shhadrasa*	*Ushna*	*Madhura*	*Chakshushhya, Lekhana*	*Kafa-pittaha*
Commifera mukul	*Tikta, Kashaya*	*Ushna*	*Katu*	*Lekhana, Sukshma*	*Tridoshaghna*
Trikatu	*Katu*	*Ushna*	*Katu*	*Lekhanadeepana*	*Kafaghna*
Operculina turpethum	*Madhura*	*Ushna*	*Madhura*	*Sara*	*Tridoshhaghna*
Baliospermum monatum	*Katu*	*Ushna*	*Katu*	*Sara*	*Pittakafa Raktaghna*
Embelia ribes	*Katu*	*Ushna*	*Katu*	*Ruksha*	*Kafavaata.*

From the above table, it is quite evident that the properties of these drugs are mainly *Ushna*, *Kafaghna*. Some of them are *Lekhana* and others are *Sara*. So, it has a good combination to counteract blockage to *Vaata* by *Kafa* and since it has *Netrarogaghna* property, it has *Gaamitwa* to *Netra*, adding to the benefits and makes it possibly the best drug in this case.

Vasaguluchyadikashayam[12] is a drug which contains *Tikta Rasa*. *Tikta Rasa* is known to reduce and absorb *Kleda, Medhya* and *Kafahara, Raktaprasadaka*. Because it is made up of V*ayu* and A*kasha mahabhuta* it helps to reduce *Prithvi* and *Jala.* In this fashion it reduces *Kafa doshha* and makes the clear pathway for *Vaata* and *Rakta*. The ingredients are *Adhatoda Vasica, Tinospora Cordifolia, Azadiracta Indica, Andrographis Panniculata, Picrorrhiza Kurrhoa, Emblica officinalis, Terminalia Bellirica, Terminalia chebula.*

Ingredients of *Vasaguluchyadi Kashayam*

Name	**Latin Name**	***Rasa***	***Guna***	***Virya***	***Vipaka***	***Prabhava***
Vasa	*Adhatoda Vasica Nees.*	*Tikta, Kashaya*	*Ruksha, Laghu*	*Sheeta*	*Katu*	*Kafa-Pittaghna*
Guduchi	*Tinospora Cordifolia*	*Tikta, Kashaya*	*Guru, Snighdha*	*Ushna*	*Madhura*	*Trodoshaghna*
Nimba	*Azadirachta Indica*	*Tikta, Kashaya*	*Laghu*	*Sheeta*	*Katu*	*Kafapittaghna*
Bhunimba	*Andrographis Paniculata Nees*	*Tikta*	*Laghu, Ruksha*	*Ushna*	*Katu*	*Kafapittaghna*
Kutki	*Picrorhiza Kurroa*	*Tikta*	*Ruksha, Laghu*	*Sheeta*	*Katu*	*Kafapittaghna*
Haritaki	*Terminalia Chebula*	*Panchrasa (Lavana Varjit)*	*Laghu, Ruksha*	*Ushna*	*Madhura*	*Tridoshahar*
Bibhitaki	*Terminalia Bellirica*	*Kashaya*	*Ruksha, Laghu*	*Ushna*	*Madhura*	*Kafavataghna*
Amalaki	*Emblica Officinalis*	*Panchrasa (Lavana Varjit)*	*Guru, Ruksha, Sheeta*	*Sheeta*	*Madhura*	*Tridoshaghna*

Bidalaka[13] is a treatment procedure in which medicines are applied in the form of paste around eyeball. It helps to reduce *Abhisyanda* (inflammation). As most of the eye diseases are due to *Abhishyanda, Bidalaka* is used here.

Punarnava is a *Shofaghna* drug. By virtue of its *Shofaghna* and *Laghu* property, it reduces blockage to *Vaata* by *Kafa*. It brings *Vaata dosha* back into *Koshtha* from the external *Siras*.

CONCLUSION

BRVO is a major vision threatening disease and understood in Ayurveda as *Kafadhika Vaatarakata.* The treatment given in this patient proved to be vision saving and lifestyle modifications helped him to prevent recurrence. According to basic principles of Ayurveda, if we know the aetiologies and the clinical features of the diseases, we can formulate treatment in *Anukta Vyadhis* and treat patients. In this case, *Kaishorguggulu* and *Vasaguluchyadi Kashaya* helped to reduce excessive *Kafa* in the *Siras*' walls and *Bidalaka* and *Punarnava Kashaya* helped to reduce oedema.

REFERENCES

1. Scott IU, Van Veldhuisen PC, Ip MS, et al. Effect of bevacizumab vs aflibercept on visual acuity among patients with macular edema due to central retinal vein occlusion: the SCORE2 randomized clinical trial. *JAMA.* 2017; 317: 2072-2087.
2. Klein, R., Klein, B. E., Moss, S. E. & Meuer, S. M. The epidemiology of retinal vein occlusion: the Beaver Dam Eye Study. Trans Am Ophthalmol Soc. 2000:98: 133–141 (2000).
3. Frangieh, G. T., Green, W. R., Barraquer-Somers, E. & Finkelstein, D. Histopathologic study of nine branch retinal vein occlusions. Arch Ophthalmol . 1982; 100:1132–1140.
4. Mir, T. A. et al. Changes in Retinal Nonperfusion Associated with Suppression of Vascular Endothelial Growth Factor in Retinal Vein Occlusion. Ophthalmology.2016; 123: 625–634.
5. O'Mahoney PR, Wong DT, Ray JG. Retinal vein occlusion and traditional risk factors for atherosclerosis. *Arch Ophthalmol.* 2008; 126: 692-699.
6. Yen YC, Weng SF, Chen HA, et al. Risk of retinal vein occlusion in patients with systemic lupus erythematosus: a population-based cohort study. *Br J Ophthalmol.* 2013;97:1192-1196.
7. Agnivesha, Charaka, Dridhabala, Chakrapani. Charaka Samhita. Sutrasthaanam, chapter 20, verse no.17. Edited by Vaidya Jadavaji T. A. First edition, Choukhamba Sanskrit Sansthana; reprint 1984; 115.
8. Agnivesha, Charaka, Dridhabala, Chakrapani. Charaka Samhita. Vimanasthaanam, chapter 5, verse no.24. Edited by Vaidya Jadavaji T. A. First edition, Choukhamba Sanskrit Sansthana; reprint 1984; 252.
9. Agnivesha, Charaka, Dridhabala, Chakrapani. Charaka Samhita. Chikitsaasthaanam, chapter 29, verse no.7,8. edited by Vaidya Jadavaji T. A. First edition, Choukhamba Sanskrit Sansthana; reprint 1984; 627,628.
10. Vagbhata, Ashtangahridayam. Nidaansthanam, chapter 16, verse no.16. Edited by Pt Bhisagacharya Harisastri Paradkar, Sixth edition, Pandurang Jawaji; reprint 1939; 537.
11. Sharangdhara. Sarngadhara- samhita. Madhyam khanda, chapter 7, verse no.70-81.edited by Pandit Parshurama Sastri. First edition, Chaukambha Orientalia; 203.
12. Vagbhata, Ashtangahridayam. Chikitsa asthaanam, chapter 16, verse no.13. Edited by Pt Bhisagacharya Harisastri Paradkar Sixth edition, Pandurang Jawaji; reprint 1939; 702.
13. Bhavamishra, Sarth Bhavaprakash. madhyakhand, chapter netrarogadhikara, verse no.169. edited by Purushottamganeshnanal. First edition, Gajanan book depot;711.

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